SLF Smart Surface Solutions

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EDITORIAL

Dear Readers,

The global political situation remains tense. Geopolitical conflicts, fragile supply chains and economic uncertainties continue to shape the environment in which companies around the world operate. The situation in Germany is also challenging: A weakening domestic economy, a lack of political momentum and pending economic policy decisions are leading to noticeable hesitation regarding new investments in many industries.

Mechanical and plant engineering in particular, traditionally an important driver of industry, is feeling these developments. Investment decisions are being reviewed more carefully, projects are being postponed and planning is being approached more cautiously. For many companies, this means operating in an environment characterized by uncertainty and short-term changes.

Nevertheless, we look ahead with cautious optimism. Our order backlog continues to ensure good capacity utilization in all areas and provides a stable foundation for the coming months. The trust our customers place in us is both confirmation and motivation. It shows that quality, reliability and close cooperation are especially important in challenging times.

At the same time, we see the current phase as a commitment to further expand our strengths: through innovation, through efficient processes and through close dialogue with our customers and partners. Especially in times of change, new ideas and solutions for the future often emerge.

We would like to thank you for your trust and look forward to tackling the upcoming challenges together with you.

Christian Gaidies *Michael Bahlinghorst*

RAIL VEHICLE MANUFACTURING AND MAINTENANCE

SLF goes Cottbus!

Installation of the plant technology for the paint booth track at the new Deutsche Bahn AG maintenance facility in Cottbus began in spring 2026.

Construction of the new **Deutsche Bahn maintenance facility in Cottbus** is in full progress – both at our production facility in Emsdetten and at the large construction site on location. One of the main elements is the new **paint shop**, where our team will install a **state-of-the-art paint booth track** by the end of 2027, which will be used for the maintenance of the ICE 4 fleet in the future.

We were commissioned to equip the paint booth track with our plant technology – including automatic pre-grinding systems, robot-assisted spray and drying booths, as well as lifting platforms. Together with the automation specialist **FANUC**, we are focusing on maximum efficiency and automation – tailored to the requirements of Deutsche Bahn. "In coordination with Deutsche Bahn AG and FANUC Germany GmbH, we have developed an innovative system with a **high degree of automation** for which there is currently no comparable technology on the market," explains Jan den Hartog, Sales Engineer responsible for this project. "This system will set new standards in terms of efficiency and quality. We are proud to be part of one of the **most exciting infrastructure projects in Germany.**"

When it comes to surface technology for rail vehicles, we have extensive experience. For example, we are currently implementing an automated blasting system with two cabins at the Deutsche Bahn site in Paderborn, each equipped with a **ReCo-Blaster®**. For Siemens AG in Krefeld, we have built customized lifting platforms for an existing paint spraying booth, and for the Siemens sites in Munich and Vienna, we have delivered complete surface treatment centers for the production of powered and trailer cars.

SLF systems have also been in operation for many years at leading rail vehicle manufacturers worldwide – from Switzerland and Spain to Egypt and China.

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XXL SURFACE TECHNOLOGY FOR THE WIND ENERGY INDUSTRY

Paint spraying booths over 150 m in length

In the production of rotor blades, tower sections and monopiles for wind turbines, surface technology operates in **extraordinary dimensions**. Component lengths of well over 100 m and diameters of more than 7 m place high demands on the equipment and plant technology. At the same time, maximum precision is required: During blasting as well as coating, even hard-to-reach areas must be reached reliably and processed evenly. Especially in the wind energy sector, quality requirements for surface conditions have increased continuously in recent years.

Wind turbines are exposed to extreme mechanical loads and permanent weathering for decades – especially to salt-laden air in offshore applications. A **high-quality surface applied with a reliable process** is therefore a decisive factor for the service life and economic efficiency of the systems.

SLF systems have been used by leading wind turbine manufacturers worldwide for decades. Our approach goes beyond blasting and coating technology alone. Whether conveying technology for components weighing several tons, ergonomic solutions for operating personnel or the intelligent integration of all process steps – we develop plant concepts that are consistently based on the real requirements of our customers.

Projects in Denmark and France are currently in the implementation phase. In France, we are extending two existing paint spraying booths from 90 m each to more than 120 m in length. Within these booths, we are installing a total of **four vertical lifting platforms**. Each of these has a span of 11 m and a working height of up to 6 m, enabling efficient and safe working processes during the coating operation.

In Denmark, we have built a new paint spraying and drying booth with a **total length of more than 150 m**. For the heating process, a specially designed heating system is used that meets the specific process requirements. Vertical lifting platforms are also integrated in this system – two units with a span of 12 m and a maximum working height of 8 m.

In close coordination with our customers, we develop **XXL surface technology solutions** that combine precision, efficiency and durability, thereby making an important contribution to the quality of modern wind turbines.

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Installation of a paint spraying booth for rotor blades

STATE-OF-THE-ART BLASTING AND PAINT SPRAYING TECHNOLOGY

Precise surface technology for heavy steel construction

ReCo-Blaster® media blast robot in the blastroom at MEKON in Rastdorf

MEKON Metallkonstruktions GmbH stands for steel construction in exceptional size and weight classes. At the company's site in Rastdorf (Germany), massive masts for substations are manufactured, among other things – components that must meet the highest requirements in terms of quality and corrosion protection.

For MEKON, we implemented a complete system solution designed for efficiency, precision and process reliability. We supplied a generously dimensioned blastroom with an **integrated ReCo-Blaster®** as well as a **combined paint spraying and drying booth**.

The **blastroom** measures an impressive 21 m in length and 7 m in width and height. In addition to **fully automated robot operation**, it is also equipped for **manual blasting work**. This combination offers maximum flexibility in daily operation.

The **paint spraying booth** is divided into two separate sections with lengths of 15 m and 18 m, each 7.3 m wide and 4 m high. This allows the different process steps to be optimally coordinated. In these systems, workpieces with dimensions of up to 16.5 × 2.75 × 2.75 m (l × w × h) are blasted and coated in two-shift operation.

The **ReCo-Blaster®** is our in-house developed 8-axis media blast robot, specially designed for use with very large and heavy workpieces. The basis for its range of movement is a 3-axis portal consisting of bridge, trolley and vertical axis. Below the vertical axis, a 5-axis kinematic system is mounted, including a rotation axis, a shoulder, an elbow, a wrist and a nozzle swivel axis.

While the **robot portal** covers large travel distances, the 5-axis kinematics ensure precise positioning of the blasting nozzle. All eight axes are synchronously controlled.

In a practical training course, the customer's employees were intensively trained by our experts in creating and optimizing blasting programs – ensuring safe and efficient system operation right from the start.

The **paint spraying and drying booth** is heated by a gas surface burner and equipped with a plate heat exchanger. Additional axial fans provide targeted air exchange directly at the component surface.

As with all our projects, these systems were **individually designed**, installed on site and commissioned by our team. The result is a **customized solution** that meets the high technical requirements of heavy steel construction as well as the demand for economical and future-proof operation.

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ABUS KRANSYSTEME GMBH, GUMMERSBACH

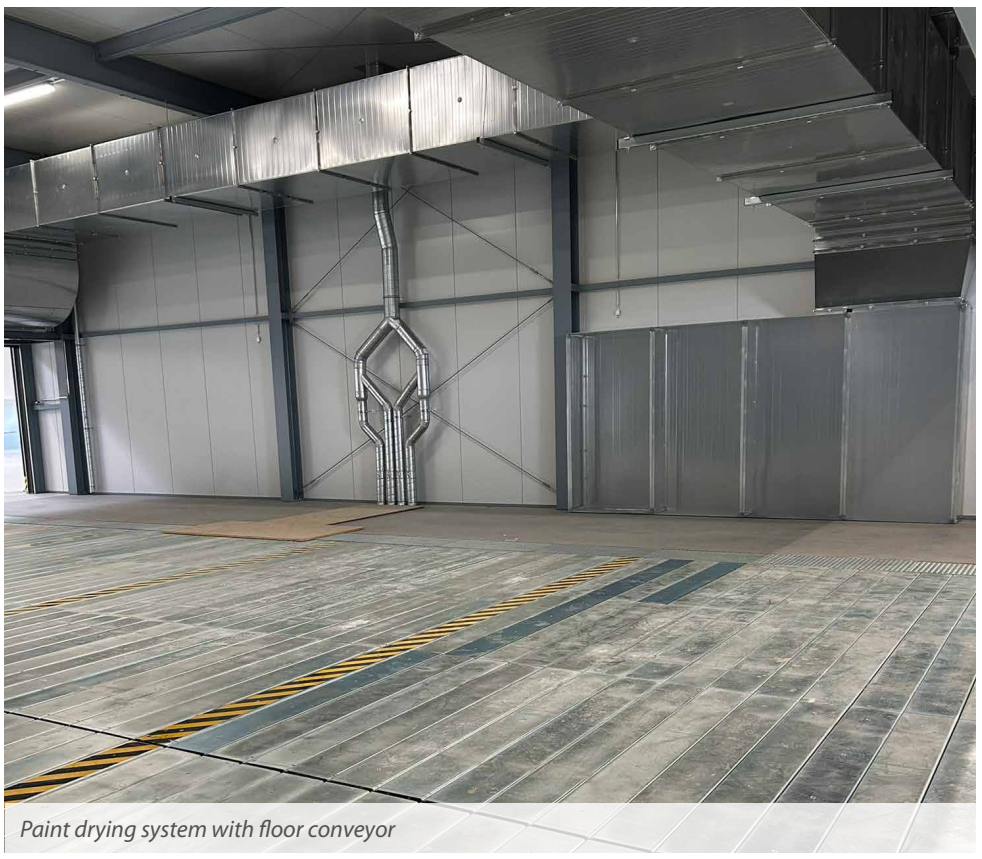
Paint line with conveyor technology for large overhead cranes

As part of the construction of a new production site in Gummersbach (Germany), **ABUS Kransysteme** was looking for a high-performance solution for coating and paint drying of their mostly heavy crane components, many of them weighing several tons. The goal was to efficiently integrate surface treatment into the new production structure while also ensuring economical and resource-efficient system operation.

An open-space paint spraying system with a size of 22 × 8 m was realized, complemented by a separate paint supply room. In close cooperation with the customer, a paint dryer was also developed with a specially designed **floor conveyor system** based on a plate belt conveyor. This conveyor technology enables the safe and continuous transport of the heavy components through the drying process.

The open-space paint spraying system is equipped with an enclosure that is open at the top. This allows the large components to be loaded easily and flexibly by overhead crane or industrial truck – a key advantage when handling heavy and bulky workpieces.

Our **innovative long-range nozzle system** is used for ventilation. The total supply and exhaust air volume is 55,000 m^3/h. The air flow is controlled by an automated **personnel detection system with dynamic section switching**. The system consists of six segments and only the areas in which work is actually taking place are activated. In this way, the ventilation system contributes to resource-efficient and economical operation.



Paint drying system with floor conveyor

Large open-space paint spraying system with long-range nozzles and enclosure

The system can be operated with either natural gas or liquid gas and is equipped with an energy-efficient **heat recovery system**. This allows part of the heat contained in the exhaust air to be recovered and reused in the process.

After the painting process, the components are transferred directly into the adjacent paint dryer. The dryer is equipped with a lifting door system and is integrated into the production material flow. Via the 12 m wide **plate belt of the floor conveyor system**, the workpieces are transported continuously through the dryer and force-dried over a length of 20 m. In this way, the painting and drying processes are optimally linked and seamlessly integrated into the production process.

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MORE EFFICIENT. SMARTER. MORE SUSTAINABLE.

Intelligent retrofit solutions for existing surface treatment systems

For the new insulation of the ventilation ducts, our service technicians work at great heights

Standstill is not an option. With targeted retrofit and modernization measures, we bring existing surface treatment systems up to the latest state of the art. We modernize blasting and paint spraying systems, optimize your processes and significantly reduce energy consumption.

Whether control technology, drive systems, filter technology or complete system extensions – our **retrofit solutions** are always based on the individual requirements of our customers. The result is tailor-made concepts that extend the service life of existing systems while significantly increasing performance.

At our customer **LAWECO Maschinen- und Apparatebau GmbH**, a leading manufacturer of lifting tables and lifting systems, we modernized the heat recovery system of the paint spraying system.

Thanks to an **intelligent damper control system**, the system can now switch flexibly between painting and drying operation. In addition, a heat exchanger was integrated and the ventilation ducts were newly insulated to further reduce energy losses.

The **heating technology** of the paint system was also optimized: A new gas surface burner and a **hot water heating coil with pump circulation** will ensure efficient and reliable heat supply in the future.

This project is a good example of how technical expertise and practical solutions go hand in hand – for greater energy efficiency and process reliability in surface treatment.

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EXPANSION OF AFTER-SALES-SERVICE

Expertise and proximity for reliable system availability

In recent months, we have consistently expanded our **after-sales-service** and strengthened both our internal support team and our field service staff. This enables us to meet the growing demand for **fast, expert support** and long-term customer care.

We are particularly pleased that, as part of this expansion, we were also able to take on qualified young professionals from within our own ranks. Several employees who successfully completed their training with us have now joined our after-sales-service team, bringing not only solid technical expertise but also a deep understanding of our systems and quality standards.

Since March 1, 2025, **Patrick Grothe** has been supporting our customers in the regions of Bavaria and Baden-Württemberg as a **Technical Customer Advisor** for spare parts, maintenance and system service. With more than 22 years of experience in surface technology, he has **extensive expertise** in blasting systems as well as their maintenance and servicing. His focus is on **individual customer support** and the long-term development of existing customer relationships.

With this expansion, we are making a targeted investment in even closer customer support and high service quality. "Our goal is not only to provide high-performance systems, but also a service that delivers long-term value," emphasizes **SLF** Managing Director Christian Gaidies. "With the combined expertise of our after-sales-service team, we support our customers in ensuring the long-term availability and cost-effectiveness of their systems."

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Staff expansion strengthens system service and customer support

ROBOTIC ZINC SPRAYING IN COMMERCIAL VEHICLE MANUFACTURING

Innovative solution for large workpieces

For an internationally active manufacturer of semi-trailers and trailers, specializing in the production of commercial vehicles and agricultural machinery with a total of ten companies, a modern coating line including automated robotic zinc spraying was realized.

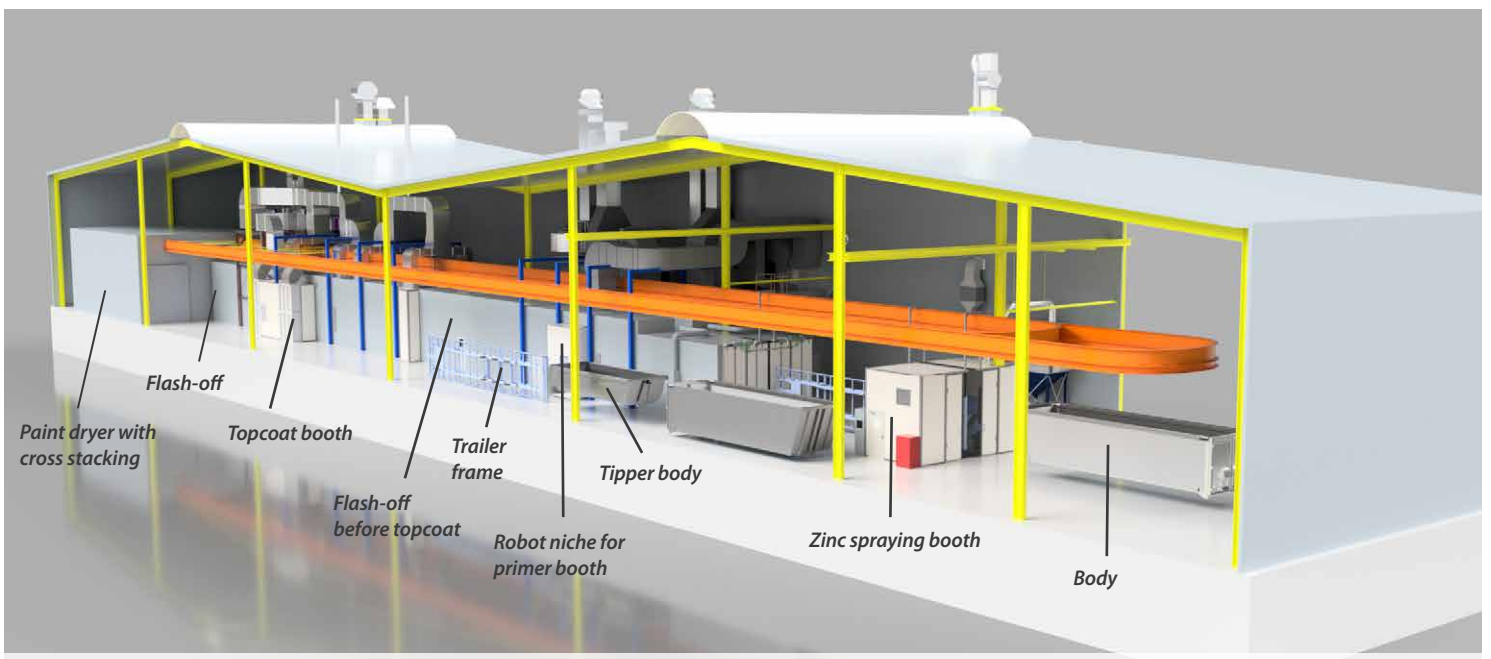
At the central production site in Eastern Germany, we – together with our partner for application technology – comprehensively automated an existing manual paint spraying line for trailer frames and tipper bodies. **Two robots** were integrated in both the primer booth and the topcoat booth. Components with dimensions of up to 15.3 × 2.5 m are coated. Application is carried out using a low-pressure application system with electrostatic support and a central paint supply system. Wet paint is applied using a line tracking process.

Material transport through the system is carried out via an **electrified overhead conveyor**. With a cycle time of 15 minutes per component, the parts pass through the entire wet paint line – from the primer and topcoat booths to the flash-off zone and the subsequent paint drying process.

A technological highlight of the system is the **robot-assisted zinc spraying process** before the painting process. While this process is already established for smaller components, its use for large-format workpieces in commercial vehicle manufacturing is an innovation. In view of increasing quality requirements for corrosion protection in commercial vehicles, the customer deliberately opted for a **modern, fully automated solution**.

In cooperation with a leading robot manufacturer, a concept specially tailored to the geometries of the trailer frames was developed. The result is a zinc spraying booth with integrated robot technology, ensuring consistently high coating quality and a high level of process reliability.

The new construction and conversion of the entire system was completed within just a few weeks.



Process chain in the wet paint line

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@ NEWSFLASH

Fresh look: Relaunch of the SLF website

Over the past year, we have completely redesigned our website. The modern design, clearer structure and **improved content** offer real added value: quick orientation, well-founded information and optimal display on all devices. Discover our system solutions, selected references and the latest news.
We warmly invite you to explore our **new website** and get inspired. **Visit us now** and learn more at **www.slf.eu**

Always up to date: Follow us on LinkedIn

On our LinkedIn profile, we keep you up to date. We share information about current projects, new products and insights into our company.
More than 1,400 followers already regularly discover new content that informs, inspires and provides added value.
We look forward to connecting with you on LinkedIn.

Successfully recertified to DIN EN ISO 9001

In mid-2025, we were successfully recertified to DIN EN ISO 9001. The successful audit confirms our consistent quality management as well as our structured and reliable processes.
For our customers, this means consistently high quality, transparent processes and continuous improvement across all areas of the company.
The recertification underlines our commitment to implementing projects efficiently, safely and at the highest level – today and in the future.

Our range of products:

- Blasting and pre-treatment systems
- Paint spraying systems
- Conveying technique
- Service and spare parts

For more information please visit our website www.slf.eu.

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AUTOMOTIVE SUPPLIER INVESTS IN CONTINUOUS BLASTING SYSTEMS

Automation of the blasting process

For **BOGE Elastmetall GmbH**, we developed and built two identical continuous blasting systems for the plants in Damme, Germany, and in Slovakia. BOGE manufactures products in the field of vibration technology and lightweight components, primarily for the automotive industry.

The **continuous blasting systems**, each measuring 5.5 × 1.75 × 2.8 m (l × w × h), are designed as injector blasting systems. In the future, steel tools weighing up to 900 kg will be cleaned here to remove vulcanization residues from a maximum cleaning area of 1.10 × 1.80 m (w × h). Glass beads with a grain size of 70–110 µm are used as blasting media.

The blastroom is divided into two functional areas: an automated section for double-sided blasting with four vertically moving injector blasting nozzles on each side and a downstream section for manual blasting when required and for possible rework. For this purpose, several glove ports and a viewing window were installed on both sides in the second section.

Workpiece transport is carried out automatically via a circulating **power & free conveyor** with load traverses for workpiece suspension. Pneumatically driven loading and unloading doors as well as a continuous ceiling slot within the system ensure a continuous conveyor route.

The system concept is complemented by a mechanical blasting media transport system, blasting media reclamation and a **high-performance filter system**. The processing program for each workpiece can be selected in advance at the central control panel.

Continuous blasting system at the Boge plant in Damme

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WHEN STANDARD SOLUTIONS ARE NOT ENOUGH

Customized lifting platforms for demanding applications

In close cooperation with **Siemens AG, special platform cages** were developed for use at the maintenance plant in Krefeld (Germany). The lifting platforms are used for painting railcars and railcar bodies and are consistently designed for ergonomic, safe and efficient working. A **fold-out, padded support device** and a **platform cage that can be rotated by 90°** allow a comfortable working position – especially when working on the tapered front sections of the rail vehicles. As part of a modernization program, all lifting platforms at the plant, some of which were more than 25 years old, have now been replaced by the newly developed generation.

We are currently implementing **vertical telescopic lifting platforms** for a wind turbine manufacturer, designed for use inside paint spraying booths. The bridge-guided lifting platforms reach spans of up to 12 m, working heights of up to 8 m and can travel along the entire length of the paint spraying booths to ensure that all component positions can be coated freely.

Vertical telescopic lifting platform

The individually designed platform solutions enable **reliable coating** of XXL components, such as rotor blades for offshore wind turbines. A special design of the telescopic mast and the platform cage ensures that the retracted telescopic mast does not extend beyond the travel bridge.

Due to significantly improved ergonomics, these **special lifting platforms** contribute substantially to increased efficiency in the manual painting of large components and thus support consistently high surface quality.

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FIRST ORDER IN NORTH AMERICA

Open-space paint spraying system for a US steel fabricator

Allied Steel Corp. is a US-based metal and steel processor supplying finished steel products for various industries, in particular for **structural steel and façade construction**.

In McGregor, Texas (USA), the company invested in a new, state-of-the-art production facility in 2024 with a total area of around 11,000 m². As part of the new construction, an open-space paint spraying system with an area of 10 × 15 m (w × l) was installed in 2025.

The system is equipped with a high-performance floor extraction system including paint overspray separation. By capturing the overspray at floor level, a uniform airflow over the component is ensured. Several downstream filter stages ensure effective and thorough cleaning of the exhaust air.

The generously dimensioned **open-space area** provides Allied Steel with a high degree of flexibility when coating a wide variety of component geometries. Handling of the mostly heavy steel components is carried out using the existing overhead crane, allowing even large-volume workpieces to be positioned easily.

With this project, we successfully completed our first order in North America. The successful commissioning of the system at a leading steel processing company represents an important milestone for us and creates a valuable reference in the North American market.

Open-space paint spraying system in McGregor

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